



State of Illinois

ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gode, Director

2200 Churchill Road, Springfield, IL 62794-9276

217/782-6762

MAR 01 1996

Suburban Moving and Storage
Attn: James Radlein
2100 Ogden Avenue
Lisle, IL 60532

EPA Region 5 Records Ctr.



233962

Re: LPC# 0430305158 -- DuPage County
Downers Grove/Suburban Moving and Storage
2400 Wisconsin Avenue
Incident #913065
LUST File

Dear Mr. Radlein:

The Illinois Environmental Protection Agency has reviewed the Results of Groundwater Sample Analysis Report and Professional Engineer Certification which were submitted for the above referenced LUST Incident. This information was dated October 9, 1995 and was received by the Agency on October 11, 1995.

Based upon the certification by David G. Yacko, a registered Professional Engineer of Illinois, and based upon other information in the Agency's possession, it appears that the Illinois Environmental Protection Agency will not require any further remediation with regard to the above referenced LUST Incident.

This letter does not constitute Agency approval of any costs incurred during remediation, nor does this letter constitute Agency approval of any corrective action activities performed during remediation.

Should you have any questions or need further assistance, do not hesitate to contact Dianne Potter-Byron of my staff at 217/782-6762.

Sincerely,

Hernando A. Albarracin

Hernando A. Albarracin
Unit Manager
Leaking Underground Storage Tank Section
Division of Remediation Management
Bureau of Land

cc: David Yacko

ATTACHMENT 3



SITE

ATTACHMENT 4

ENVIRONMENTAL SERVICES, INC.
CONSULTING ENGINEERS

December 9, 1994

Mr. Bar Filson, Manager
Illinois Environmental Protection Agency
Bureau of Land
Division of Remediation Management
Leaking Underground Storage Tank Section
2200 Churchill Road, P.O. Box 19276
Springfield, Illinois 62794-9276

Subject: Results of Groundwater Monitoring Well Installation, Sampling, and Analysis;
SITE 91121T01.M34

Reference: LPC #0430305158 -- DuPage County
Downers Grove/Suburban Moving and Storage
2400 Wisconsin Avenue
Incident #913065
LUST/Tech Report File

Dear Mr. Filson:

SITE Environmental Services, Inc. (SITE), on behalf of Suburban Moving and Storage Company (Suburban Moving), is pleased to present the results (attached) of groundwater monitoring well installation, sampling, and analysis performed in October and November 1994, following verbal approval from Ms. Dianne Potter (IEPA) on October 19, 1994, to proceed. Specifically, the approved work undertaken that was agreed sufficient at this time to address Agency concerns presented in their September 12, 1994, letter consisted of the following:

- install downgradient groundwater monitoring wells MW4 and MW5 at the locations shown in the figure in Appendix 1;
- sample all groundwater monitoring wells (MW1-MW5) for PNAs and total lead analysis;
- report the results of this round of groundwater analysis.

Monitoring wells MW1 through MW3 had been installed during prior investigation events. Downgradient wells MW4 and MW5 were installed on October 24, 1994, by Chicago Drilling Company. Split spoon soil samples were obtained at 2.5-foot intervals, and all soil samples were screened for total volatile organic compounds (VOCs) using a Photovac Microtip photoionization detector (PID) by placing a small portion of each sample in a plastic ziplock bag, warming the

sample to volatilize any VOCs which may be present, and inserting the tip of the PID into a small opening in the bag to measure VOCs in the headspace within the bag. PID results have been recorded on the boring logs for MW4 and MW5, which are included in Appendix 2 together with Field Reports. Low-level VOCs were detected at shallow depths immediately beneath the asphalt pavement (1.5 ppm at 1.8 feet in MW4, and 2.5 ppm at 2.5 feet in MW5), which probably are attributable to the pavement itself; VOCs were not detected in any other soil samples in either MW4 or MW5.

One soil sample was retained from each boring for laboratory analysis of PNAs and TCLP Lead. Results are presented in the attached summary table. PNAs were not detected in either of the two soil samples. TCLP lead was not detected in the soil sample analyzed from MW4, but was detected at the low concentration of 0.026 ppm in the soil sample obtained from MW5. This is apparently an isolated, non-LUST related hit of lead since lead was basically not detected in 1991 cleanup validation samples of the excavation surfaces situated between the former USTs and the monitoring well boring locations.

Monitoring wells MW4 and MW5 were installed to a depth of 15 feet each, with each consisting of a 10-foot long stainless steel screen and PVC riser. Well construction details are shown in Figures 8.1 through 8.5 in Appendix 1. As indicated on the Figures in Appendix 1 and the boring logs in Appendix 2, groundwater was measured at a depth of about 3.5 feet at upgradient monitoring well MW3, and between about 7 and 10.5 feet at monitoring wells MW1, 2, and 5. Groundwater accumulation in MW4 was very slow, and the water level had risen to a depth of 14 feet after 18 days. Groundwater flow was determined to be west of northwest.

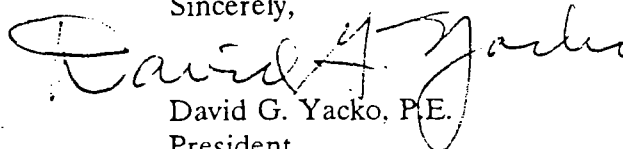
Monitoring wells MW1, 2, 3, and 5 were sampled on October 24, 1994, for PNA analysis following the removal of three well volumes of water using disposable Teflon bailers. MW4 was sampled for PNAs, and all five monitoring wells were sampled for total lead analysis on November 11, 1994, once there was a sufficient quantity of water in MW4 for sampling. As shown in the attached table, PNAs were not detected in any of the groundwater samples. An isolated, low-concentration hit of lead (0.014 ppm) was present in the MW4 groundwater sample, which is not considered to be LUST-related since lead contamination was not evident in cleanup validation samples situated between the former USTs and MW4, or at any of the other monitoring well locations.

Based on the groundwater monitoring results presented herein and in previous submittals, it is evident that LUST residuals are confined to the immediate LUST surfaces and area, and that PNAs have not migrated beyond this area. Further evaluation of this site is unwarranted, and the Agency is requested to grant Suburban Moving & Storage Company Incident 913065 closure.

Mr. Bur Filson
Incident 913065
SITE 91121T01.M34
December 9, 1994

-3-

If you have any questions please do not hesitate to call me.

Sincerely,

David G. Yacko, P.E.
President

attachment: Summary of Monitoring Well Sample Analyses

appendices: Appendix 1 - Groundwater Monitoring Well Locations and Details
Appendix 2 - Soil Boring Logs and Field Reports
Appendix 3 - Laboratory Certification and Data Sheets

cc: Mr. James Radlein (Suburban Moving and Storage)

Suburban Moving & Storage
 IEPA Incident 913065
 11/30/94

SUMMARY OF MONITORING WELL SAMPLE ANALYSES

Sample	Parameter (concentration in ppm)						[3]	
	Non-Carcinogenic PNAs						Total Other Non-Carc. PNAs	TCLP Lead
	Naphtha- lene	Acenaph- thene	Anthra- cene	Fluor- anthene	Fluorene	Pyrene		
IEPA Soil Cleanup Objective [1]	0.025	8.400	42.000	5.600	5.600	4.200	4.200	0.0075
PQL [2]	0.66	1.2	0.66	0.66	0.14	0.18	1.371	0.005
MW4-5 (11.0'-12.0')	ND	ND	ND	ND	ND	ND	ND	ND
MW5-4 (8.8'-9.8')	ND	ND	ND	ND	ND	ND	ND	0.026
Groundwater PQLs [2]	0.010	0.018	0.0066	0.0021	0.0021	0.0027	0.01716	
Groundwater Samples:								
MW1	ND	ND	ND	ND	ND	ND	ND	ND
MW2	ND	ND	ND	ND	ND	ND	ND	ND
MW3	ND	ND	ND	ND	ND	ND	ND	ND
MW4	ND	ND	ND	ND	ND	ND	ND	0.014
MW5	ND	ND	ND	ND	ND	ND	ND	ND

- [1] IEPA "Leaking Underground Storage Tank Manual", Fall 1991; objectives revised February 1993.
 [2] PQL = Practical Quantitation Limit; values shown for PNAs are IEPA-specified detection levels.
 [3] Total Other Non-Carcinogenic PNAs include: Acenaphthylene, Benzo(g,h,i)perylene, Phenanthrene
 P = meets the greater of all IEPA generic cleanup objectives or PQLs.
 * = exceeds the greater of one or more IEPA generic cleanup objective or PQL.

Suburban Moving & Storage
 IEMA Incident #13065
 11/30/94

SUMMARY OF MONITORING WELL SAMPLE ANALYSES (cont.)

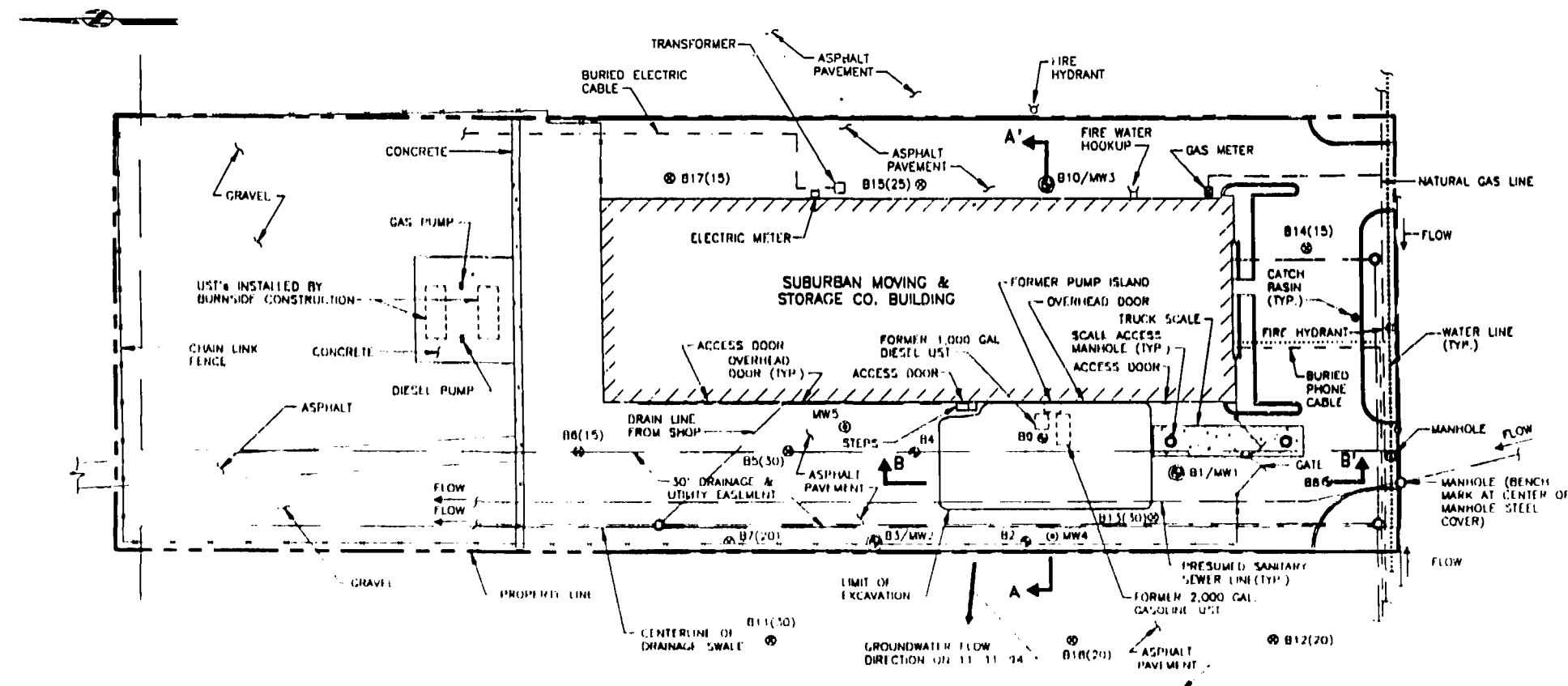
Parameter (concentration in ppm)								P/X
Sample	Carcinogenic PNLs							P/X
	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	
ILPA Soil Cleanup Objective [1]	0.0026	0.0046	0.0016	0.0034	0.03	0.006	0.0006	
PQL [2]	0.0007	0.015	0.011	0.011	0.10	0.020	0.009	
MW4-5 (11.0" - 12.0")	ND	ND	ND	ND	ND	ND	ND	P
MW5-4 (8.0" - 9.0")	ND	ND	ND	ND	ND	ND	ND	X
Groundwater PQLs [2]	0.00013	0.00023	0.00010	0.00017	0.0015	0.00030	0.00043	
Groundwater Samples:								
MW1	ND	ND	ND	ND	ND	ND	ND	P
MW2	ND	ND	ND	ND	ND	ND	ND	P
MW3	ND	ND	ND	ND	ND	ND	ND	P
MW4	ND	ND	ND	ND	ND	ND	ND	X
MW5	ND	ND	ND	ND	ND	ND	ND	P

- [1] ILPA "Leaking Underground Storage Tank Manual", Fall 1991; objectives revised February 1993.
 [2] PQL = Practical Quantitation Limit; values shown for PNLs are ILPA specified detection levels.
 [3] Total Other Non-Carcinogenic PNLs includes: Acenaphthylene, Benzo(g,h,i)perylene, Phenanthrene
 [4] P = meets the greater of all ILPA generic cleanup objectives or PQLs.
 X = exceeds the greater of one or more ILPA generic cleanup objective or PQL.

Mr. Bur Filson
Incident 913065
SITE 91121T01.M34
December 9, 1994

APPENDIX 1

GROUNDWATER MONITORING WELL LOCATIONS AND DETAILS



NOTES:

1. SITE PLAN BASED ON PLAT OF SURVEY PREPARED BY MID AMERICA SURVEY COMPANY, 145 E. ALCOHOL ROAD, ARLINGTON HEIGHTS, ILLINOIS (JOB NO. 205427) FOR T. COPATA, DATED 1-4-91
2. SEE FIGURES 8-1, 8-2, 8-3, 8-4 AND 8-5 FOR MONITORING WELL CONSTRUCTION DETAILS AND GROUNDWATER LEVEL DATA
3. SEE FIGURE 9 FOR GEOLOGICAL SECTIONS A-A' AND B-B'. MW4 AND MW5 NOT SHOWN ON GEOLOGICAL SECTIONS SINCE THEY WERE INSTALLED AFTER COMPLETION OF FIGURE 9
4. BORINGS B1 THROUGH B4 AND B5 THROUGH B10 PERFORMED ON 6-29-93 AND 6-30-93
5. BORINGS B5-B7, B11-B18 PERFORMED 11-3-93 THROUGH 11-5-93
6. ARBITRARY SITE DATUM OF ELEVATION 50.00 ESTABLISHED AT BENCH MARK (CENTER OF MANHOLE STEEL COVER IN SOUTHWEST CORNER OF SITE).
7. MONITORING WELLS MW4 AND MW5 INSTALLED 10-24-94

LEGEND

- ⊕ B10/MW3 BORING B10 CONVERTED INTO MONITORING WELL MW3
- ⊕ B2 BORING B2 (SEE NOTE 4)
- ⊕ B11(30) BORING 13 BORING DEPTH = 30' (SEE NOTE 5)
- ⊕ MW4 MONITORING WELL MW4

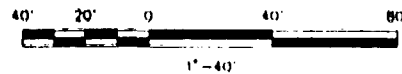
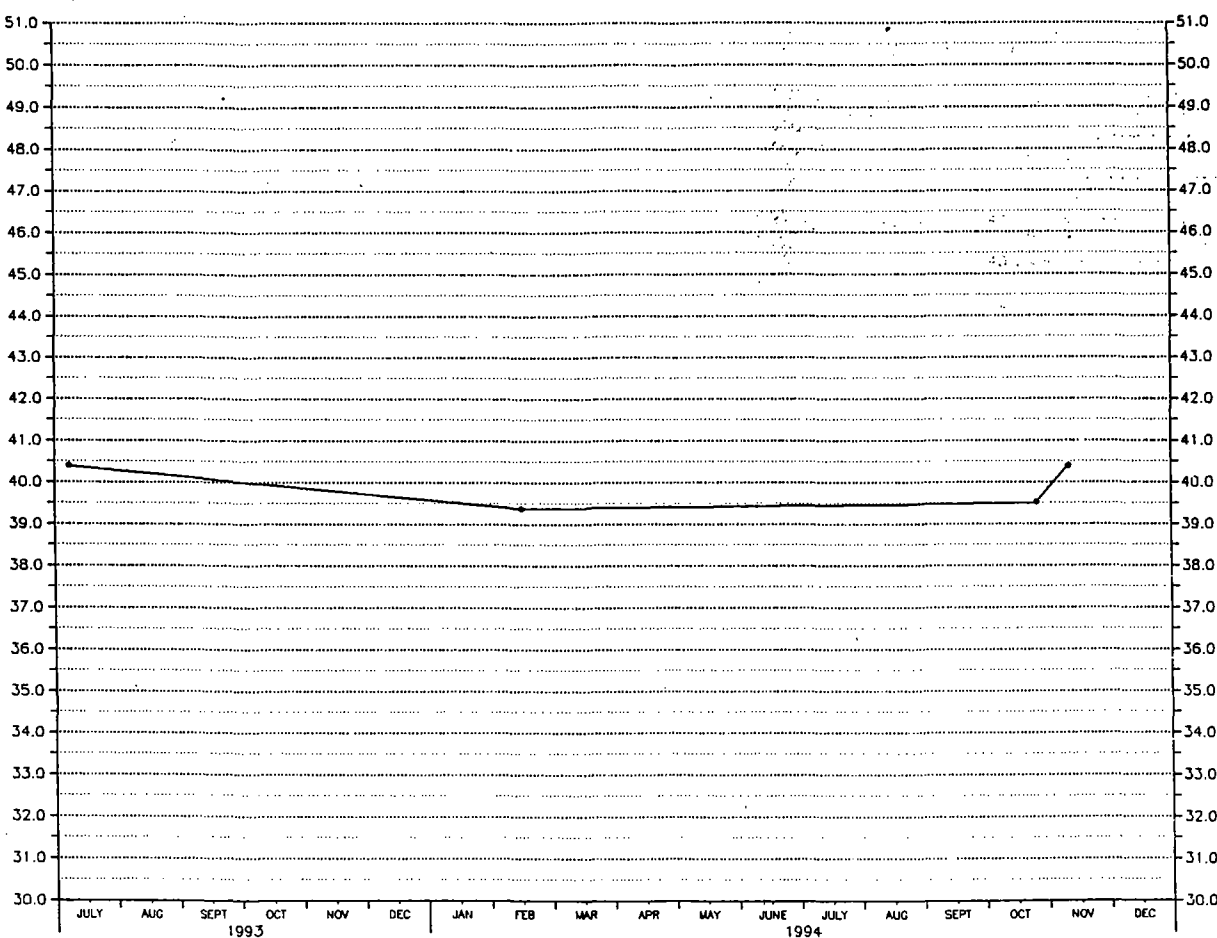
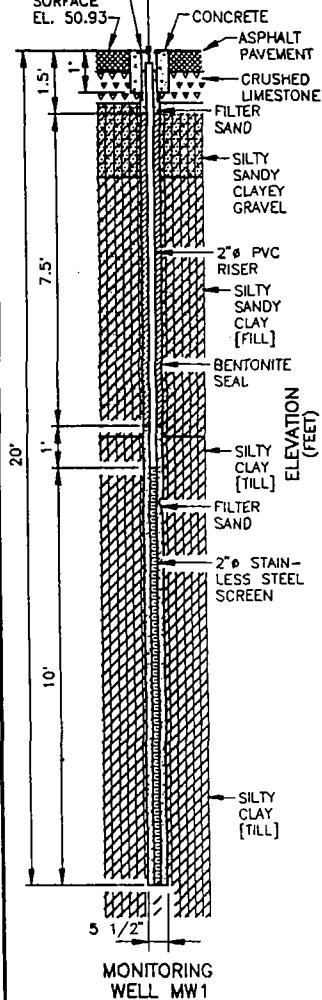


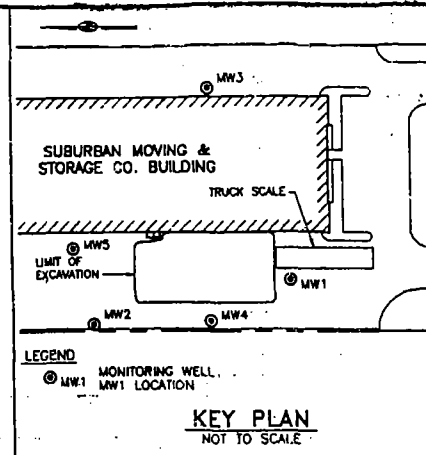
FIGURE 7
BORING LOCATION PLAN
SUBURBAN MOVING & STORAGE CO.
DOWNEY'S GROVE, ILLINOIS
HMA INCIDENT #013065
SITE Environmental Services, Inc.
Orland Park, Illinois

FLUSH MOUNT
STEEL COVER
(BOLTED)
GROUND
SURFACE
EL. 50.93

TOP OF PVC RISER
EL. 50.63 (WITH
VENTED COMPRESSION
CAP)



MW1 GROUNDWATER LEVEL DATA



NOTE:
WELL INSTALLED 6/29/93.

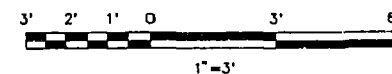
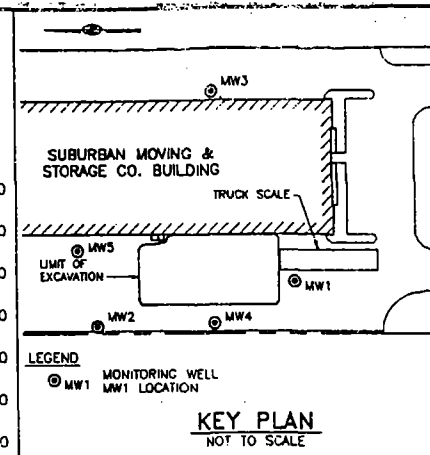
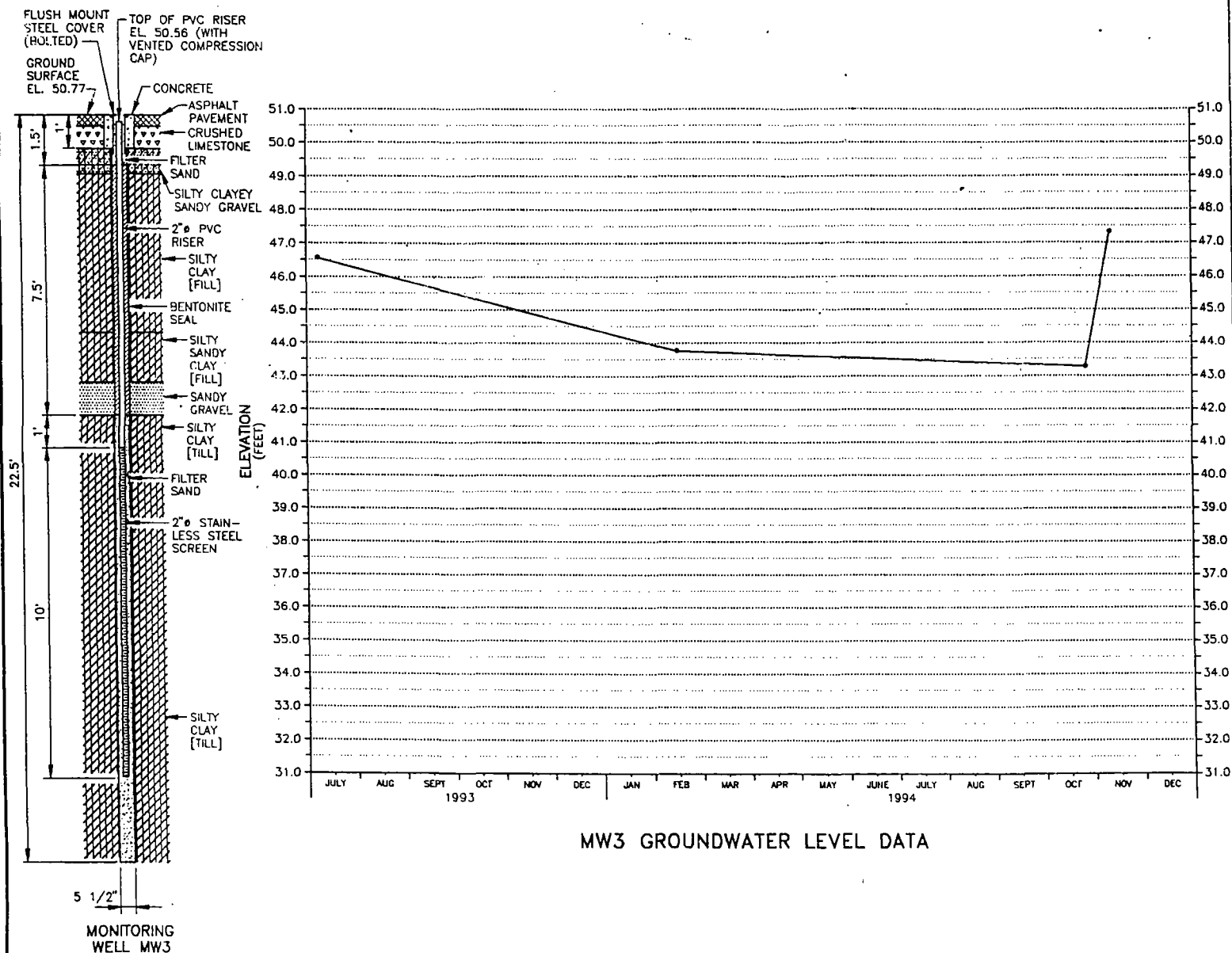


FIGURE 8.1
GROUNDWATER MONITORING
WELL MW1 DETAILS
SUBURBAN MOVING & STORAGE CO.
IEMA INCIDENT #913065
SITE Environmental Services, Inc.
Orland Park, Illinois



NOTE:
WELL INSTALLED 6/29/93.

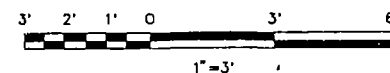
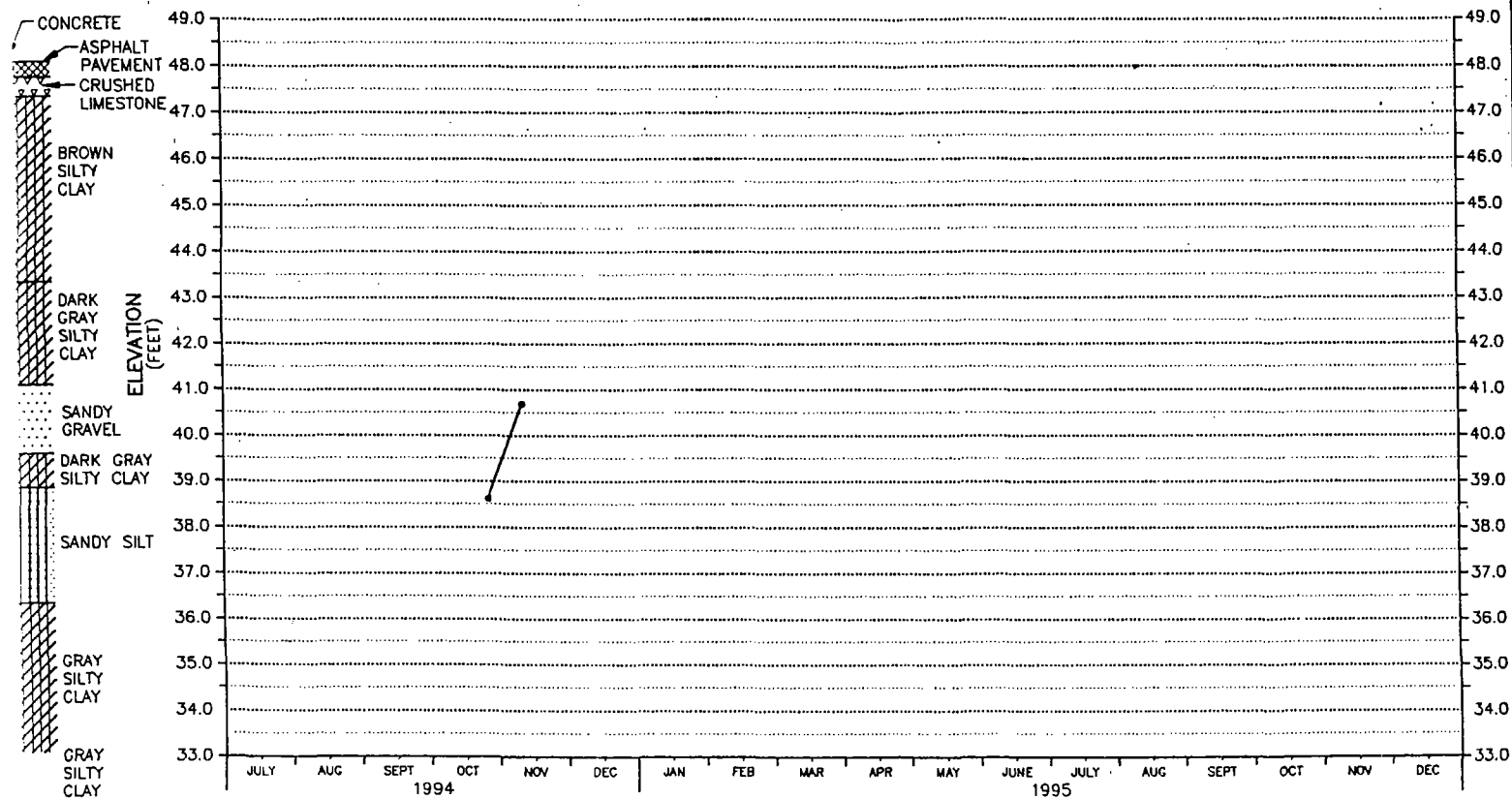
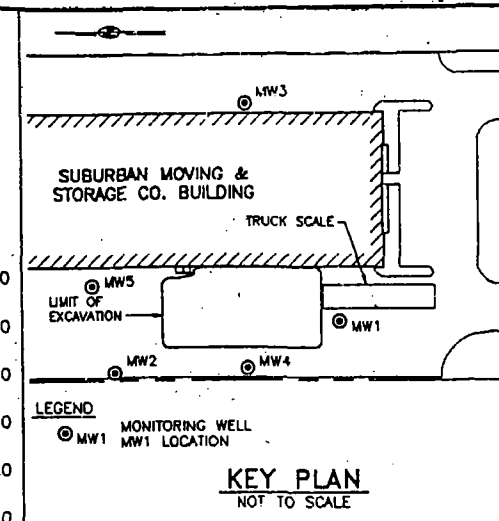


FIGURE 8.3
GROUNDWATER MONITORING
WELL MW3 DETAILS
SUBURBAN MOVING & STORAGE CO.
IEMA INCIDENT #913065
SITE Environmental Services, Inc.
Orland Park, Illinois

TOP OF PVC RISER
= 47.86 (WITH
INSTALLED COMPRESSION
CAP)



MW5 GROUNDWATER LEVEL DATA



NOTE:
WELL INSTALLED 10/24/94.

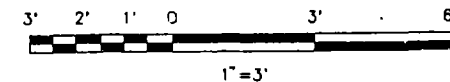
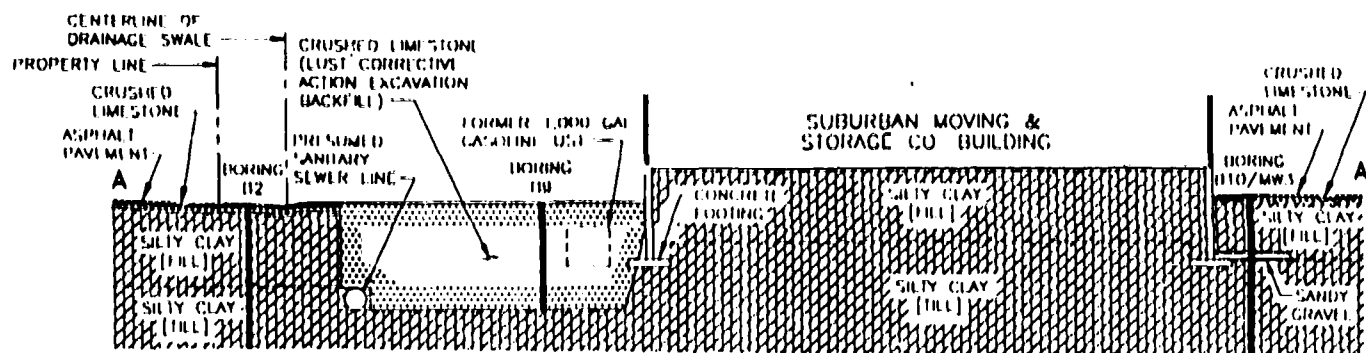
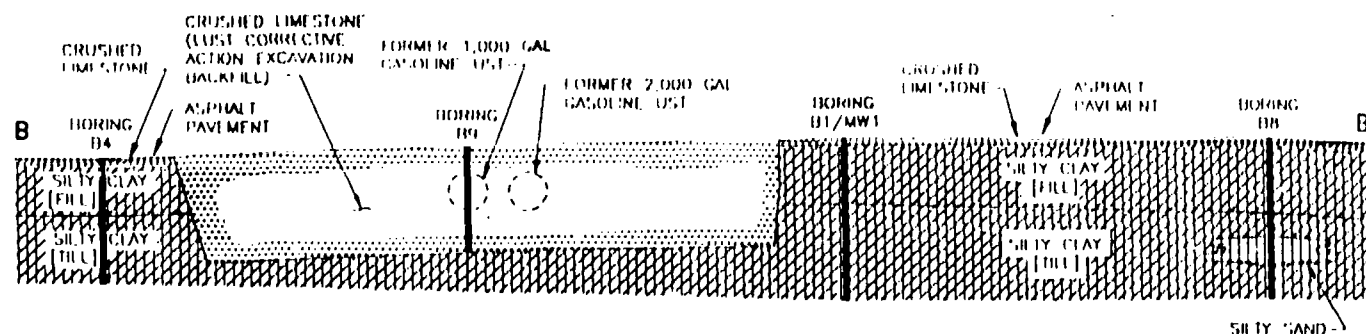


FIGURE 8.5
GROUNDWATER MONITORING
WELL MW5 DETAILS
SUBURBAN MOVING & STORAGE CO.
IEMA INCIDENT #913065
SITE Environmental Services, Inc.
Orland Park, Illinois

NG
W5



SECTION A-A'
SCALE 1"=20'



SECTION B-B'
SCALE 1"=20'

NOTES:

1. SEE FIGURE 7 FOR GEOLOGIC SECTION LOCATIONS.
2. INTERPRETATION OF STRATIGRAPHY BASED ON BORING LOGS, AND MAY DIFFER FROM THIS DEPICTION.

FIGURE 9
GEOLOGIC SECTIONS
SUBURBAN MOVING & STORAGE CO.
DOWNERS GROVE, ILLINOIS
IEMA INCIDENT #913065
SITE Environmental Services, Inc.
Orland Park, Illinois

20' 40'

Mr. Bur Filson
Incident 913065
SITE 91121T01.M34
December 9, 1994

APPENDIX 2

SOIL BORING LOGS AND FIELD REPORTS

SOIL DESCRIPTION										NOTES AND FIELD TESTS
Depth (ft/m)	Sample Depth (ft/m)	Sample No.	Sampler Type	Blows per 8 in/15 cm	Length Driven (in/cm)	Length Recovered (in/cm)	Casing Depth (ft/m)	Unified Soil Classification	Surface Conditions:	
ASPHALT PAVEMENT										
1								GW	CRUSHED LIMESTONE BASE	
2		1	SS	11	18	8	-	CL	BROWN SILTY CLAY w/ SD. FI. GVL, TR. SF (V. STIFF)	PID = 1.5 PPM @ 1.8'
3				9						
4				9						
5		2	SS	7	18	8	-	CL	DARK GRAY TO BLACK SILTY CLAY (V. STIFF)	PID = 0 PPM @ 4.2'
6				13						
7		3	SS	6	18	8	-		GRADES w/ INCREASED PLASTICITY AND FI-MED. GVL	PID = 0 PPM @ 6.7'
8				5						
9				7				GP	GRAY FI-LO GVL w/ SOME DK GRAY TO BLK SI-CLAY (DENSE)	PID = 0 PPM @ 9'
10		4	SS	7	18	6	-			
11				6						
12		5	SS	3	18	4	-	CL	GR. SILTY CLAY, TR. FI GVL (HARD)	PID = 0 PPM @ 12.3'
13				20						
14										
15		6	SS				-		GRADES w/ MED. PLASTICITY	AUGER/SAMPLER REFUSAL @ 13.5' SWITCH TO 2 1/4" AUGER
16										
17		7	SS	1	12	12	-			PID = 0 PPM @ 17.5'
18				19						
19				9						
20		8	SS	16	18	18	-		GRADES w/ OCL. CO. GVL	PID = 0 PPM @ 20'
20				22						
BORING TERMINATED @ 20'. OBVIOUS GW NOT ENCOUNTERED.										

SOIL BORING LOG

Project Number 91121T01
Client Suburban Moving
Contractor Chicago Drilling Co.
Drilling Method 4 1/4" ID HSA
Hole Size 8 1/2" Dia.
Driller Mike Shlimon
Logged by David Yacko

Project Name Suburban Moving

WATER LEVEL			
TIME			
DATE			

Sample Hammer: Weight 140#
Drop 30"
Sampler Dimensions 2" OD split spoon

Boring No. MW5
Location DOWNGRADIENT @ BLDG
Coordinates: N _____
E _____
Ground Elevation _____
Total Depth 15.0'
Date Started 10/24/94
Date Completed 10/24/94

Depth (ft/m)	Sample Depth (ft/m)	Sample No.	Sampler Type	Blows per 6 in/15 cm	Length Driven (in/cm)	Length Recovered (in/cm)	Casing Depth (ft/m)	Unified Soil Classification	SOIL DESCRIPTION	NOTES AND FIELD TESTS
									Surface Conditions: <u>ASPHALT PAVEMENT</u>	
1								GW	<u>ASPHALT</u> <u>CRUSHED LIMESTONE BASE</u>	
2		1	SS	8	18	18	-	CL	<u>BR. SI-CL W/SO. FI-CL. GVL</u>	<u>PID = 2.5 PPM</u> <u>@ 2.5'</u> <u>(HARD OBJECT</u> <u>@ 2')</u>
3										
4		2	SS	6	18	18	-			
5								CL	<u>DARK GRAY TO BLACK SILTY CLAY</u> <u>(V. STIFF)</u>	<u>PID = 0 PPM</u> <u>@ 5'</u> <u>INPENETRABLE</u> <u>OBJECT @ 5.5'</u> <u>RELOCATE 2' N.W.</u>
6										
7		3	SS	12	18	18	-			
8								GP SP	<u>LT. BROWN SANDY FI-CL GVL W/SILT</u> <u>TO GRAVELLY FI-M SAND W/SILT</u> <u>(V. DENSE)</u>	<u>PID = 0 PPM</u> <u>@ 7.5'</u>
9									<u>DK GR - BLK SILTY CLAY, SO. FI GVL</u> <u>(V. STIFF)</u>	
10		4	SS	11	18	18	-	ML SM	<u>LT. BR SILT (WET) w/FI SAND,</u> <u>TO BR. SILTY SAND (V. STIFF)</u>	<u>PID = 0 PPM</u> <u>@ 10'</u>
11										
12		5	SS	5	18	18	-			
13								CL ML	<u>GRAY SILTY CLAY TO CLAYEY</u> <u>SILT (STIFF)</u>	<u>PID = 0 PPM</u> <u>@ 12.5'</u>
14									<u>GRADES V. SOFT & PLASTIC</u>	
15		6	SS	8	18	18	-	CL	<u>GR SILTY CLAY, TR. FI GVL (V. STIFF)</u>	<u>PID = 0 PPM</u> <u>@ 15'</u>
16									<u>BORING TERMINATED @ 15'</u> <u>GW ENCOUNTERED @ ~ 9.5'</u>	
17		7	SS							
18										
19										
20		8	SS							

SITE Environmental Services, Inc.
15320 Stradford Lane
Orland Park, Illinois 60462

Phone: 708-460-6912
Fax: 708-460-6925

FIELD REPORT

October 24, 1994

Project: Suburban Moving & Storage
Project #91121T01

Present: David Yacko (SITE), Mike and Gabriel Shlimon (Chicago Drilling Company-CDC)

Weather: Partly sunny, cold, strong southerly wind; brief drizzle before noon;
temperature: 50°F @ noon

CDC shown the IEPA-approved locations for MW4 and MW5. MW4 was attempted first since it is located in an area where employees could park if delayed until last. Three trials were required before completing the boring. Trial 1 encountered brown crushed stone (max. dia. approx. 1") to a depth of 10 feet. The material was fill, possibly used in conjunction with the sewer installation. Drilling was difficult, and the boring was abandoned and relocated 5 feet to the north. Similar conditions were again encountered, and a hard, impenetrable object encountered at 15 feet. Trial 2 was abandoned, and MW4 relocated about 8 feet south of Trial 2, and completed to a total depth of 20 feet in search of obvious groundwater. Based on the water levels at MW1 (11') and MW2 (9') today, the well was final installed to a depth of 15 feet in Trial 3.

A hard impenetrable object was encountered at MW5 at a depth of about 5.5 feet. The boring was relocated about 2' northwest, and drilled to a depth of 15 feet. GW5 was installed to a depth of 15'.

Both wells were constructed with a 10-foot stainless steel screen and PVC riser. Low-level VOCs were detected in the uppermost sample in each boring, but no VOCs were detected below a depth of 2.5 feet. One soil sample was obtained from each of MW4 and MW5. Groundwater samples MW1, 2, 3, and 5 were obtained today, and the top of riser pipe and surrounding ground surface at MW4 and MW5 was surveyed following well installation. MW4 had not produced enough groundwater for measurement or sampling today, and SITE

Field Report
10/24/94
91121T01

-2-

intends to return in about 48 hours to measure and sample the well.

Quality Analytical Labs picked up all samples obtained today at about 3:15 pm for transport back to the laboratory.

SITE Environmental Services, Inc.
15320 Stradford Lane
Orland Park, Illinois 60462

Phone: 708-460-6912
Fax: 708-460-6925

FIELD REPORT

November 7, 1994

Project: Suburban Moving & Storage
Project #91121T01

Present: David Yacko (SITE)

Stopped by Suburban site after tank removal at Jungels Heating in Lisle. Checked MW4; water starting to accumulate at the bottom of the well but still not enough to sample.

SITE Environmental Services, Inc.
15320 Stradford Lane
Orland Park, Illinois 60462

Phone: 708-460-6912
Fax: 708-460-6925

FIELD REPORT

November 11, 1994

Project: Suburban Moving & Storage
Project #91121T01

Present: David Yacko (SITE)

Measured all wells, beginning with MW4. Finally some water had accumulated in MW4 (about 1-foot). Because of the very slow rate of recharge to this well, it would not be possible to bail three well volumes prior to sampling; Therefore, the water that was in the well was sampled for the required PNA and total Lead analyses. Only about 1/3 gallon of water could be sampled for PNAs; about 8 ounces of water were sampled for total lead. The well was completely dry upon completion of sampling, and while sampling the other wells was allowed to recharge, if possible. No measurable or samplable accumulation was evident, and the well was closed. Wells MW1,2,3, and 5 have already been analyzed by QAL for PNAs, and therefore were only sampled for total lead analysis.

The PNA sample from MW4 was taken to QAL; Mike Kimmel of QAL believed the quantity would be very marginal for analysis to the ADLs prescribed by the IEPA. However, in light of the fact that it could take months before there is enough water to fill a gallon container, the sample was turned over to QAL for analysis to do the best they could at analyzing the sample to the Agency specified ADLs.

Total Lead samples were left at the site (Burnside) for pickup by Great Lakes Analytical. Lead samples would not be analyzed by QAL since they currently do not have anyone in-house who can run the analysis, and have been subcontracting the metals testing to other laboratories who we do not wish doing our analyses, particularly because of an apparent lack of communication between QAL and these other labs. Therefore, until QAL can perform metals analyses in-house, samples will be analyzed by either Great Lakes Analytical or Environmental Monitoring and Technologies, Inc.

Mr. Bob Wilson
Incident 913065
SITE 91121701.M34
December 9, 1994

APPENDIX 3

LAB CERTIFICATION AND DATA SHEETS

Illinois Environmental Protection Agency
LEAKING UNDERGROUND STORAGE TANK PROGRAM
Laboratory Certification

Suburban Moving
Chain-of-Custody
#19433
#19437

Part A - Sample Collector

I was responsible for sample collection. I certify that samples were collected using approved USEPA or IEPA procedures.

(Initial)

I certify that chain of custody procedures were followed in the field, that efforts were made to preserve sample integrity and that all samples were properly labeled.

(Initial)

Part B - Laboratory Representative

I certify that proper chain of custody procedures were followed as documented on the chain of custody forms.

(Initial)

I certify that sample integrity was maintained by proper preservation, and that all samples were labeled.

(Initial)

I certify that quality assurance/quality control procedures were established and carried out.

(Initial)

I certify that sample holding times were not exceeded.

(Initial)

I certify that SW-846 Analytical Laboratory Procedure (USEPA) methods were used for the analysis.

(Initial)

I certify that the lowest practicable quantitation limit found in SW-846 for soils and groundwater were met for each parameter.

(Initial)

I hereby affirm that all information contained in this form is true and accurate to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SAMPLE COLLECTOR

Name: David G. Yacko

Title: President

Company: SITE Environmental Services, Inc.

Address: Orland Park, IL 60462-6741

Signature: David G. Yacko

11/16/94

LABORATORY

Name: Mike Kinner

Title: Project Manager

Company: Quality Analytical Labs, Inc.

Address: Lisle, IL 60532

Signature: Mike Kinner

Date: 11/28/94

For information, please refer to the Illinois Environmental Protection Agency's (IEPA) Chain of Custody Form. Failure to follow the instructions on this form may result in a civil penalty of up to \$75,000.00 per day the failure continues, a fine up to \$50,000.00 and imprisonment up to five years. This form has been approved by the Forms Management Center.



QUALITY
ANALYTICAL
LABS, INC.

November 10, 1994

SITE Environmental Services
15320 Stradford Lane
Orland Park, IL 60462

ATTN: David Yacko

Chain of Custody #: QAL #19433
Project Name & #: Suburban Moving & Storage
2400 Wisconsin Avenue
Downers Grove, IL
Proj. #91121701

Sampling Date: 10/24/94

Please find enclosed the Analytical Report for the following samples:

<u>QAL Lab ID #</u>	<u>Sample Description</u>
942450-01	MW4-5, MW4 @ 11.0'-12.0'
942450-02	MW5-4, MW5 @ 8.8'-9.8'
942450-03	MW2, Monitoring Well MW2
942450-04	MW1, Monitoring Well MW1
942450-05	MW3, Monitoring Well MW3
942450-06	MW5, Monitoring Well MW5

If you have any questions please contact Mike Kimmel at our laboratories.

Respectfully submitted,

Quality Analytical Laboratories, Inc.

John Boudreau

John Boudreau
Laboratory Director

sy:SI942450

"Precision, Accuracy and Service"

Sample ID: MW4-5, 942450-1

% Moisture: 13

Extraction Date: 10/27/94
PNA'S

Analysis Date: 10/29/94
Method: SW-846 8310 HPLC

Parameter	CRDL mg/Kg	Dry Weight Analysis mg/Kg
Naphthalene	0.66	U
Acenaphthylene	0.66	U
Acenaphthene	1.2	U
Fluorene	0.14	U
Phenanthrene	0.66	U
Anthracene	0.66	U
Fluoranthene	0.66	U
Pyrene	0.18	U
Benzo(a)anthracene	0.0087	U
Chrysene	0.10	U
Benzo(b)fluoranthene	0.011	U
Benzo(k)fluoranthene	0.011	U
Benzo(a)pyrene	0.015	U
Dibenzo(a,h)anthracene	0.020	U
Benzo(ghi)perylene	0.051	U
Indeno(1,2,3-c,d)pyrene	0.029	U

TCLP Extraction Date: 10/26/94

Digestion Date: 10/31/94

TCLP METAL (select)

Parameter	PQL mg/L	Analysis mg/L	Method	Analysis Date
TCLP Lead	0.005	U	SW846	7421 11/02/94

Sample ID: MW5-4, 942450-2

% Moisture: 16

Extraction Date: 10/27/94

Analysis Date: 10/29/94

PNA'S

Method: SW-846 8310 HPLC

Parameter	CRDL mg/Kg	Dry Weight Analysis mg/Kg
Naphthalene	0.66	U
Acenaphthylene	0.66	U
Acenaphthene	1.2	U
Fluorene	0.14	U
Phenanthrene	0.66	U
Anthracene	0.66	U
Fluoranthene	0.66	U
Pyrene	0.18	U
Benzo(a)anthracene	0.0087	U
Chrysene	0.10	U
Benzo(b)fluoranthene	0.011	U
Benzo(k)fluoranthene	0.011	U
Benzo(a)pyrene	0.015	U
Dibenzo(a,h)anthracene	0.020	U
Benzo(ghi)perylene	0.051	U
Indeno(1,2,3-c,d)pyrene	0.029	U

TCLP Extraction Date: 10/26/94

Digestion Date: 10/31/94

TCLP METAL (select)

Parameter	PQL mg/L	Analysis mg/L	Method SW846	Analysis Date
TCLP Lead	0.005	0.026	7421	11/02/94

Sample ID: MW2, 942450-03

Extraction Date: 10/31/94	Analysis Date: 11/03/94
PNA'S	Method: SW-846 8310
Parameter	CRDL Analysis
	ug/L ug/L
Naphthalene	10. U
Acenaphthylene	10. U
Acenaphthene	18. U
Fluorene	2.1 U
Phenanthrene	6.4 U
Anthracene	6.6 U
Fluoranthene	2.1 U
Pyrene	2.7 U
Benzo (a) anthracene	0.13 U
Chrysene	1.5 U
Benzo (b) fluoranthene	0.18 U
Benzo (k) fluoranthene	0.17 U
Benzo (a) pyrene	0.23 U
Dibenzo (a, h) anthracene	0.30 U
Benzo (ghi) perylene	0.76 U
Indeno (1, 2, 3-c, d) pyrene	0.43 U

Sample ID: MW1, 942450-04

Extraction Date: 10/31/94

Analysis Date: 11/03/94

PNA'S

Method: SW-846 8310

Parameter

CRDL
ug/L

Analysis
ug/L

Naphthalene	10.	U
Acenaphthylene	10.	U
Acenaphthene	18.	U
Fluorene	2.1	U
Phenanthrene	6.4	U
Anthracene	6.6	U
Fluoranthene	2.1	U
Pyrene	2.7	U
Benzo(a)anthracene	0.13	U
Chrysene	1.5	U
Benzo(b)fluoranthene	0.18	U
Benzo(k)fluoranthene	0.17	U
Benzo(a)pyrene	0.23	U
Dibenzo(a,h)anthracene	0.30	U
Benzo(ghi)perylene	0.76	U
Indeno(1,2,3-c,d)pyrene	0.43	U

Sample ID: MW3, 942450-05

Extraction Date: 10/31/94 Analysis Date: 11/03/94

PNA'S

Method: SW-846 8310

Parameter

CRDL
ug/L

Analysis
ug/L

Naphthalene	10.	U
Acenaphthylene	10.	U
Acenaphthene	18.	U
Fluorene	2.1	U
Phenanthrene	6.4	U
Anthracene	6.6	U
Fluoranthene	2.1	U
Pyrene	2.7	U
Benzo(a)anthracene	0.13	U
Chrysene	1.5	U
Benzo(b)fluoranthene	0.18	U
Benzo(k)fluoranthene	0.17	U
Benzo(a)pyrene	0.23	U
Dibenzo(a,h)anthracene	0.30	U
Benzo(ghi)perylene	0.76	U
Indeno(1,2,3-c,d)pyrene	0.43	U

Sample ID: MW5, 942450-06

Extraction Date: 10/31/94

Analysis Date: 11/03/94

PNA'S

Method: SW-846 8310

Parameter

CRDL
ug/L

Analysis
ug/L

Naphthalene	10.	U
Acenaphthylene	10.	U
Acenaphthene	18.	U
Fluorene	2.1	U
Phenanthrene	6.4	U
Anthracene	6.6	U
Fluoranthene	2.1	U
Pyrene	2.7	U
Benzo(a)anthracene	0.13	U
Chrysene	1.5	U
Benzo(b)fluoranthene	0.18	U
Benzo(k)fluoranthene	0.17	U
Benzo(a)pyrene	0.23	U
Dibenzo(a,h)anthracene	0.30	U
Benzo(ghi)perylene	0.76	U
Indeno(1,2,3-c,d)pyrene	0.43	U

EPA - Defined Data Qualifiers

- B** **Compound detected in blank (Normalized concentration)**
Used when blank value exceeds half of the CRDL (PQL).
- C** **Pesticide result confirmed by GC/MSD**
- D** **Compound identified in analysis at a secondary dilution factor**
Used when two or more dilutions of a sample are needed to acquire valid data.
- E** **Compounds concentration exceeds calibration range**
Used when upper level of calibration curve is exceeded by 10%. Analyses greater than 50% of upper calibration level are reanalyzed at a higher dilution.
- J** **Estimated value. Compound detected below the CRDL (PQL).**
- P** **Pesticide or Aroclor analysis where results between analytical and confirmation columns is > 25%.**
- U** **Compound analyzed for but not detected at or above the CRDL (PQL).**
- X** **NON-Specific flag - See definition at the end of the report**

Data Validation Qualifiers

- NJ** **Presumptive evidence of presence of material at an estimated quantity.**
Used when QA/QC failures are present AND data is true. Must be accompanied by NCR
- PND** **Precision Not Determined**
Used when non-approved methods are used to obtain data.
- R** **Reported value is unusable due to gross QA/QC deficiencies.**
- RND** **Recovery Not Determined**
Used when non-approved methods are used to obtain data.
- UJ** **Compound analyzed for but not detected, reported detection limit estimated because QA/QC criteria were not met.**

Detection Limit Definitions

- CRDL** **Contract Required Detection Limits = Detection limits specified by client or agency**
Based on wet weight analysis
- IDL** **Instrument Detection Limit**
Statistically derived detection limit from 7 + analyses of a low level standard near but above the estimated Method Detection Limit.
- MDL** **Method Detection Limit**
Instrument Detection Limit X End Volume [specified by the method] / Mass, Volume or Area of the Sample [specified by the method] (Based on wet weight analysis)
- PQL** **Practical Quantitation Limit**
Method Detection Limit X End Volume [analytical] / Mass, Volume or Area of the Sample [analytical] (Based on wet weight analysis)



QUALITY
ANALYTICAL
LABS, INC.

November 22, 1994

SITE Environmental Services
15320 Stradford Lane
Orland Park, IL 60462

ATTN: David Yacko

Chain of Custody #: QAL #19437
Project Name & #: Suburban Moving & Storage; #91121T01
Sampling Date: 11/11/94

Please find enclosed the Analytical Report for the following sample:

<u>QAL Lab ID #</u>	<u>Sample Description</u>
942671-01	MW4, Monitoring Well

If you have any questions please contact Mike Kimmel at our laboratories.

Respectfully submitted,

Quality Analytical Laboratories, Inc.

John Boudreau
Laboratory Director

sy:SI2+2671

"Precision, Accuracy and Service"

Sample ID: MW4, 942671-01

Extraction Date: 11/16/94

Analysis Date: 11/17/94

PNA'S

Method: SW-846 8310

Parameter

CRDI

Analysis

ug/L

ug/L

Naphthalene	10.	U
Acenaphthylene	10.	U
Acenaphthene	10.	U
Fluorene	2.1	U
Phenanthrene	6.4	U
Anthracene	6.6	U
Fluoranthene	2.1	U
Pyrene	2.7	U
Benzo(a)anthracene	0.13	U
Chrysene	1.5	U
Benzo(b)fluoranthene	0.16	U
Benzo(k)fluoranthene	0.17	U
Benzo(a)pyrene	0.23	U
Dibenzo(a,h)anthracene	0.30	U
Benzo(ghi)perylene	0.76	U
Indeno(1,2,3-c,d)pyrene	0.43	U

EPA - Defined Data Qualifiers

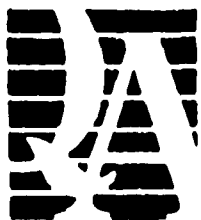
- | | |
|----------|--|
| B | Compound detected in blank (Normalized concentration)
Used when blank value exceeds half of the CRDL (PQL). |
| C | Pesticide result confirmed by GC/MSD |
| D | Compound identified in analysis at a secondary dilution factor
Used when two or more dilutions of a sample are needed to acquire valid data. |
| E | Compounds concentration exceeds calibration range
Used when upper level of calibration curve is exceeded by 10%. Analyses greater than 50% of upper calibration level are reanalyzed at a higher dilution. |
| J | Estimated value. Compound detected below the CRDL (PQL). |
| P | Pesticide or Aroclor analysis where results between analytical and confirmation columns is > 25%. |
| U | Compound analyzed for but not detected at or above the CRDL (PQL). |
| X | NON-Specific flag - See definition at the end of the report |

Data Validation Qualifiers

- | | |
|------------|--|
| NJ | Presumptive evidence of presence of material at an estimated quantity.
Used when QA/QC failures are present AND data is true. Must be accompanied by NCR |
| PND | Precision Not Determined
Used when non-approved methods are used to obtain data. |
| R | Reported value is unusable due to gross QA/QC deficiencies. |
| RND | Recovery Not Determined
Used when non-approved methods are used to obtain data. |
| UJ | Compound analyzed for but not detected, reported detection limit estimated because QA/QC criteria were not met. |

Detection Limit Definitions

- | | |
|-------------|--|
| CRDL | Contract Required Detection Limits = Detection limits specified by client or agency
Based on wet weight analysis |
| IDL | Instrument Detection Limit
Statistically derived detection limit from 7 + analyses of a low level standard near but above the estimated Method Detection Limit. |
| MDL | Method Detection Limit
Instrument Detection Limit X End Volume [specified by the method] / Mass, Volume or Area of the Sample [specified by the method] (Based on wet weight analysis) |
| PQL | Practical Quantitation Limit
Method Detection Limit X End Volume [analytical] / Mass, Volume or Area of the Sample [analytical] (Based on wet weight analysis) |



QUALITY ANALYTICAL LABS CHAIN OF CUSTODY REPORT

No. 1047

COMPANY NAME **SITE ENVIRONMENTAL SERVICES, INC.**
REPORT MAILING ADDRESS **15320 STRADFORD LANE**
CITY, STATE, ZIP CODE **ORLAND PARK, IL 60467-6741**
CONTACT NAME & PHONE NUMBER **DAVE YACKO 708-460-6212**

LABORATORY USE ONLY

QAL PROJECT NUMBER

91267

ANALYSES

FILTERED (Y/N)

PRESERVATIVE CODE

INTEGRITY OK (Y/N)

REMARKS

TEST WATER - 1
ONLY

PROJECT NUMBER		PROJECT NAME	
91121 TO 1		SUBURBAN MOVING & STORAGE	
SAMPLER(S) NAME (Print & Sign)			
DAVID Yacko		David A. Yacko	
SAMPLE ID	MATRIX CODE	SAMPLE DATE	SAMPLE TIME
1 MW4	GW	11/11/94	1300
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

MATRIX CODES
S - SOIL/SEDIMENT
BW - SOIL WASTE
GW - GROUND WATER
WW - WASTE WATER
SL - SLUDGE
OL - OIL
O - OTHER
L - LIQUID

TEMPERATURE
As received in laboratory

REGULATIONS
☒ IEPA - UST
WQNR - UST
MDNR - UST
RCRA
CERCLA
CWA
MWID - OC
OTHER

PRESERVATIVE CODES
A - NONE
B - HCl
C - H2SO4
D - NaOH
E - HCl
F - MeOH
G - OTHER
H - R

TAT
✓
RO
C-100

QAL QA/QC LEVEL REQUESTED NONE 1 2 3 OTHER SPECIFY

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)
DAVID Yacko	11/11/94						
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	ADDITIONAL COMMENTS			
	11/11/94	1:40 PM					

Illinois Environmental Protection Agency
LEAKING UNDERGROUND STORAGE TANK PROGRAM
Laboratory Certification

Part A - Sample Collector

1. I was responsible for sample collection. I certify that samples were collected using approved USEPA or IEPA procedures.
- (Initial) [Signature]
2. I certify that chain of custody procedures were followed in the field, that efforts were made to preserve sample integrity and that all samples were properly labeled.
- (Initial) [Signature]

Part B - Laboratory Representative

1. I certify that proper chain of custody procedures were followed as documented on the chain of custody forms.
- (Initial) [Signature]
2. I certify that sample integrity was maintained by proper preservation, and that all samples were labeled.
- (Initial) [Signature]
3. I certify that quality assurance/quality control procedures were established and carried out.
- (Initial) [Signature]
4. I certify that sample holding times were not exceeded.
- (Initial) [Signature]
5. I certify that SW-846 Analytical Laboratory Procedure (USEPA) methods were used for the analysis.
- (Initial) [Signature]
6. I certify that the lowest practicable quantitation limit found in SW-846 for soils and groundwater were met for each parameter.
- (Initial) [Signature]

I hereby affirm that all information contained in this form is true and accurate to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SAMPLE COLLECTOR

Name: David G. Yacko
Title: President
Company: SITE Environmental Services, Inc.
Address: 15320 Stradford Lane
Orland Park, IL 60462
Signature: [Signature]
Date: 12/5/94

LABORATORY

Name: KEVIN W. KEELEY
Title: LABORATORY DIRECTOR
Company: GREAT LAKES ANALYTICAL
Address: 1380 BUSEH PKWY
BUFFALO GROVE, IL 60089
Signature: [Signature]
Date: 12.5.94

SAMPLE NUMBER: 4110596-600

November 17, 1994

Site Environmental Services, Inc.
15320 Stradford Lane
Orland Park, IL 60461-6741
Attention: David Yacko

Project: 91121TO1, Suburban Moving

Enclosed are the results from 5 water samples received at Great Lakes Analytical on November 11, 1994. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
4110596	Water, MW1	11/11/94	Lead by EPA 3010/7421
4110597	Water, MW2	11/11/94	Lead by EPA 3010/7421
4110598	Water, MW3	11/11/94	Lead by EPA 3010/7421
4110599	Water, MW4	11/11/94	Lead by EPA 3010/7421
4110600	Water, MW5	11/11/94	Lead by EPA 3010/7421

This report may not be reproduced, except in full, without the written approval of the laboratory.

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,


GREAT LAKES ANALYTICAL

Kevin W. Kesley
Laboratory Director

Site Environmental Services, Inc.
15320 Stradford Lane
Orland Park, IL 60461-6741
Attention: David Yacko

Client Project ID: 91121TO1, Suburban Moving
Sample Descript: Water
Analysis for: Lead by EPA 3010/7421
First Sample #: 411-0596

Sampled: Nov 11, 1994
Received: Nov 11, 1994

Analyzed: Nov 15, 1994
Reported: Nov 17, 1994

LABORATORY ANALYSIS FOR: Lead by EPA 3010/7421

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
411-0596	MW1	0.0050	N.D.
411-0597	MW2	0.0050	N.D.
411-0598	MW3	0.0050	N.D.
411-0599	MW4	0.0050	0.014
411-0600	MW5	0.0050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

4110596.SIT <1>



1350 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7166 FAX (708) 308-7772

Site Environmental Services, Inc.
15320 Stradford Lane
Orland Park, IL 60461-6741
Attention: David Yacko

Client: Project ID: 91121TO1, Suburban Moving
Matrix: Water

QC Sample Group: 4110596-600

Reported: Nov 17, 1994

QUALITY CONTROL DATA REPORT

ANALYTE

Lead

Method: 3010/7421
Analyst: A. Mehrabi
Concentration: 1.0
Units: mg/L

LAB. CONTROL
SAMPLE DATA

Date Analyzed: Nov 15, 1994
Instrument I.D.# 1

LCS%
Recovery: 82

MATRIX SPIKE
& DUP. DATA

Date Analyzed: Nov 15, 1994
Instrument I.D.# 1

Matrix Spike
% Recovery: 90

Matrix Spike
Duplicate %
Recovery: 91

Relative %
Difference: 1.1

GREAT LAKES ANALYTICAL

Kenn W. Keeley
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

4110596.SIT <2>

Growth with the Africa -

~~QUALITY ANALYTICAL LABS~~ CHAIN OF CUSTODY RECORD

Nº 19436

COMPANY NAME	SITE ENVIRONMENTAL SERVICES, INC.
REPORT MAILING ADDRESS	15320 STRADFORD LAKE
CITY, STATE, ZIP CODE	ORLAND PARK, IL 60462-6741
CONTACT NAME & PHONE NUMBER	DAVID Yacko 208-460-6912

LABORATORY USE ONLY	
QAL PROJECT NUMBER	
ANALYSES	

PROJECT NUMBER	91121TO1	PROJECT NAME	SUBURBAN MOVING
SAMPLER(S) NAME : (Print & Sign)		DAVID G. YACKO	
		David G. Yacko	

					FILTERED (Y/N)
					PRESERVATIVE CODE
					INTEGRITY OK (Y/N)

[illegible]

MATRIX CODES		TEMPERATURE	REGULATIONS	PRESERVATIVE CODES	TAT REQUEST
S - SOIL/SEDIMENT	SL - SLUDGE	As received in laboratory	<input checked="" type="checkbox"/> IEPA - UST	A - NONE	<input checked="" type="checkbox"/> STANDARD
SW - SOILD WASTE	OL - OIL		WDNR - UST	B - HNO3	RUSH
<input checked="" type="checkbox"/> GW - GROUND WATER	O - OTHER		MDNR - UST	C - H2SO4	DATE REQUIRED
WW - WASTE WATER	L - LIQUID		RCRA	D - NaOH	
			CERCLA	E - HCl	
			CWA	F - MeOH	
			MWRD - GC	(O) OTHER	
			OTHER	cooler	

QAL QA/QC LEVEL REQUESTED	NONE	1	2	3	OTHER	SPECIFY
---------------------------	------	---	---	---	-------	---------

RELINQUISHED BY : (Signature) 	Date 11/11/94	Time 1300	RECEIVED BY : (Signature)	RELINQUISHED BY : (Signature)	Date	Time	RECEIVED BY : (Signature)
RELINQUISHED BY : (Signature)	Date	Time	RECEIVED BY : (Signature)	RELINQUISHED BY : (Signature)	Date	Time	RECEIVED BY : (Signature)
RELINQUISHED BY : (Signature)	Date	Time	RECEIVED IN LAB : (Signature) 	ADDITIONAL COMMENTS 11/11/94			